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ABSTRACT

The resource guide for grades three and four presents in outline form a unit on airplanes and airports which contains a broad range of ideas for classroom activities and suggested materials from which teachers may choose. The unit's nine sections are: goals, objectives, and concepts; subject matter; occupational information; suggested motivation activities; suggested study activities; material and equipment needs; evaluation; audiovisual and resource materials; and a bibliography. (Author/JR)

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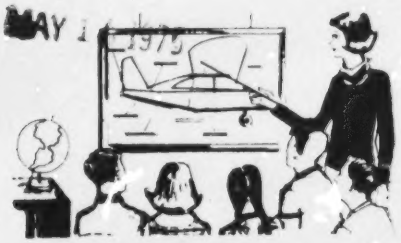

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COMMERCIAL AIRLINES AND AIRPORTS

Careers in Transportation

Grades 3 & 4

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Teachers Resource Guide

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GENERAL INTRODUCTION

Career Development elementary units are an attempt to involve all youngsters in an approach to total education. Not only does the unit approach emphasize the relation of subject matter to the community outside the school, but also it seeks to introduce students to different career clusters found in that community. In addition, this approach stimulates self evaluation by youngsters; that is, each student becomes more aware of himself in terms of strengths, weaknesses, abilities, likes and dislikes, etc. Implementation of the Career Development approach will also offer decision-making practice for youngsters and will encourage active participation of all students to the extent of individual capabilities.

Six elements form the base for the Career Development method -- resource persons, field trips, role playing, occupational awareness, subject matter tie-in and manipulative activity. Through the relation of subject matter to different occupational areas, student learning skills are strengthened and awareness of career characteristics is increased. A field trip provides youngsters the chance to see workers in their work environment, utilizing the "school subject" skills, knowledge and information appropriate to that role. Classroom resource persons also provide students with first-hand knowledge as they share job feelings, information and interests and answer student questions. By role playing various occupations in the unit study, students gain personal insight into that job and are able to experience some of the actual responsibilities, duties and feelings associated with that work role. The final element, the hands-on activity, attempts to unite the other elements in an activity that closely approximates the characteristics of the career cluster being studied, thus allowing youngsters to put their classroom academic skills and occupational information into actual practice.

INTRODUCTION TO THE AIRPLANE UNIT

Involving third and fourth grade students in an activity-centered unit related to airplane transportation is an effective means of presenting social studies concepts. The opportunity to "get involved" in planning and executing activities provided by the unit offers children a creative outlet for their energy. Field trips and resource persons provide enrichment experiences for many students and enhance ongoing classroom activities.

NOTES TO THE TEACHER

Included in this resource guide is a broad range of ideas for classroom activities and suggested materials from which teachers may choose. It is emphasized that this guide is a resource unit containing numerous ideas gathered from teachers' classroom experiences. In planning a unit around this resource guide, teachers are encouraged to select and combine activities to develop a teaching unit to meet the needs and interests of a particular class.

This unit format has been developed as the most convenient method of organizing the materials and activities in order; beginning with objectives and concepts, including motivation and study activities, and concluding with evaluation techniques, materials lists, and bibliographies. The six (6) elements of the Career Development approach are included in this guide, but it is the individual teacher's ordering of them that makes his class's unit unique.

I. GOALS, OBJECTIVES AND CONCEPTS

A. TEACHER GOALS

1. To broaden the student's knowledge of himself and the work community.
2. To increase the student's knowledge of airplanes as one means of transportation.
3. To broaden the student's working vocabulary.
4. To provide the student real, manipulative and audio/visual learning experiences as well as abstract ones.
5. To stimulate the student's understanding of his individual contribution to the cooperative effort.
6. To help the student learn to function effectively on his own and as a member of the group.
7. To strengthen the student's decision-making skills by involving him in the decision-making process.
8. To help the student learn to identify and solve problems through critical thinking.
9. To stimulate the student's realization that all work roles are dignified deserve respect and contribute to a functioning society.
10. To give the student increased opportunities for identifying his self-characteristics.

B. LEARNER (BEHAVIORAL) OBJECTIVES

NOTE: These objectives may have to be adapted to fit the special abilities of individuals within a class.

1. By the end of the unit study, the learner will be able to recognize and pronounce a minimum of 75% of the vocabulary words introduced.
2. The learner will demonstrate his understanding of the vocabulary words by using them correctly in the context of written work and oral activities.
3. The learner will be able to relate a working definition of the term, airport and name a minimum of five (5) different major areas in the airport.
4. The learner will be able to identify five (5) major external parts of the airplane.
5. The learner will be able to list five (5) ways in which airplanes can be used.
6. The learner will be able to name at least five (5) work roles associated with the airport.
7. The learner will be able to describe some of the duties and work role characteristics associated with those five (5) work roles.
8. The learner will be able to construct a model airplane and/or a section of a model airport.
9. The learner will be able to name four (4) of the busiest airports in the United States.
10. The learner will be able to distinguish among the three (3) major types of airplanes, according to engine.

C. CONCEPTS

1. According to the American Heritage Dictionary, an aircraft is any machine or device, including airplanes, helicopters, gliders and dirigibles, capable of atmospheric flight.
2. An airport is said to be any tract of levelled land where aircraft can take off and land, usually equipped with hard-surfaced landing strips. a control tower, hangars and accomodations for passengers and cargo.
3. An airplane is able to fly as the result of the interaction of four (4) aerodynamic forces -- weight, lift, thrust and drag.
4. Different kinds of airc. aft have been developed for specific purposes-- such as carrying passengers, hauling cargo, dusting crops, searching for and rescuing lost people, gathering information about the weather and aiding in map making.
5. Carrying passengers, cargo and mail is the primary job of commercial airlines which operate in approximately six hundred (600) United States Airports.
6. Having an airport often aids a community's growth since it permits easier accessibility and links the community more quickly with other parts of the country. Some cities own the airports and employ private firms to manage them.
7. Many different kinds of jobs are provided by an airport serving several airlines.
8. Major airports in large cities such as New York, Atlanta, Chicago and San Francisco are huge complexes of terminal buildings, ramps, control towers, hangars and runways.
9. Restaurant and motel facilities can be found in or around busy airports serving large numbers of passengers.
10. Many airports have a weather station that gathers meteorological information to share with pilots.
*11. An FAA control center may also be located in certain airports. The Federal Aviation Agency (FAA) is the government office that regulates overall aircraft operations, including air traffic control and airport facilities.
12. Passengers may arrive at the airport in their own cars, in airport limousines or by helicopter shuttle service.
13. Once at the airport, the passenger obtains a ticket from one of the airlines, checks his baggage and consults the schedule for his flight and gate departure information.
14. A passenger's baggage is checked, weighed and tagged to show its destination. Then it is sent to the loading area to be placed on the correct plane.
15. After checking his baggage, the passenger goes to the area of the of the airport (concourse) served by his airline to find his boarding lounge.
16. Recently instituted security measures require that passengers pass through a metal detection device and have their carry-on luggage and handbags searched.

*Stambler, Supersonic Transport

17. At the boarding lounge, the passengers has his ticket checked by the agent and waits to board the plane until called by the agent.
18. On board the plane, the passenger is directed by the steward or stewardess to either the first class or tourist section, depending upon the type of ticket.
19. A snack or soft drink is served to passengers on short flights, while more elaborate meals are served on long distance flights. Caterers at the airport prepare the meals and deliver them to the plane shortly before take-off. Once the plane is in flight, the flight attendants on board heat and serve the meals to the passengers.
20. Airplanes vary in engine (jet, prop and turbo-prop) and in size, which means that there may be as few as two (2) passengers and as many as three hundred (300) passengers.
21. In addition to the crew, passengers and luggage, a commercial passenger plane may also carry mail and small amounts of freight.
22. Some commercial planes carry only mail and cargo.
23. Major airlines serving Atlanta and the southeastern United States include Braniff, Delta, Eastern, Northwest Orient, Piedmont, Southern, Trans World Airlines and United.
24. The Air Traffic Control Towers are tall, glass-topped structures that enable the controllers to see approaching traffic from all directions. The controllers rely heavily on sophisticated electronic tracking equipment to keep up with the aircraft in their jurisdiction.
25. Each plane that lands or takes off from the airport must get clearance from the Control Tower.
26. Air traffic controllers are employees of the Federal Aviation Agency.
27. Airplane fuel is measured in pounds rather than in gallons.
28. Many different kinds of lights are used at an airport to help illuminate the runways.
29. Pilots attempting to land fly down a "radio slide" which is sent out by the instrument landing system. Radar is also used to help assist pilots in making safe landings.
30. Planes not being flown are parked in the hangar where mechanics inspect them and give them periodic overhauls.
31. Airplanes have increased the east of transportation and have facilitated the closer linking of different parts of the world.

II. SUBJECT MATTER

*A. DEFINITION OF KEY TERMS

1. Airplane: Any of various winged vehicles capable of flight, generally heavier than air and propelled by jet engines or propellers.
2. Airport: (a) A tract of levelled land where aircraft can take off and land, usually equipped with hard-surfaced landing strips, a control tower, hangars and accomodations for passengers and cargo; (b) A similar installation in which the landing area is on water.

*American Heritage Dictionary

3. Flight: The act or process of flying; locomotion through air by means of wings.
4. Transportation: (a) A means of transport; a conveyance; (b) the business of transporting materials, goods or the like.

B. SUGGESTED VOCABULARY TERMS

1. Airplane
2. Airport
3. Air Traffic Control
4. Baggage
5. Cargo
6. Characteristics
7. Commercial
8. Control Tower
9. Drag
10. Duties
11. FAA
12. Flight
13. Freight
14. Fuel
15. Fuselage
16. Gate
17. Hangar
18. Helicopter
19. Hijacker
20. Jet
21. Landing Gear
22. Lift
23. Military
24. Passenger
25. Private
26. Propeller
27. Rudder
28. Runway
29. Security
30. Tail
31. Terminal
32. Transportation
33. Thrust
34. Weight
35. Wing
36. Worker

C. HISTORY OF AIRPORTS

1. First airports were open fields -- cow pastures.
2. Airports after World War I.
3. Airports since World War II.

D. TYPES OF PLANES ACCORDING TO ENGINE

1. Prop
2. Jet
3. Turbo-prop

E. TYPES OF PLANES ACCORDING TO USE

1. Passenger
2. Cargo
3. Reconnaissance
4. Pleasure
5. Military
6. Weather
7. Medical
8. Agriculture

F. MAJOR EXTERNAL PARTS OF AN AIRPLANE

1. Rudder
2. Elevator
3. Skin
4. Props

5. Fuselage
6. Tail
7. Wings
8. Flaps
9. Landing Gear
10. Nose
11. Engine

G. TYPES OF AIRPORTS

1. Commercial
2. Private
3. Helicopter
4. Military
5. Landing Strip

H. DIFFERENT AREAS OF THE AIRPORT

1. Main Terminal
2. Ticket and Information Counters
3. Concourse
4. Security Station
5. Ramps
6. Boarding Lounges
7. Service Areas
8. Gates
9. Management Offices
10. Baggage Claim
11. Control Tower
12. Runways
13. Approach
14. Hangars
15. Parking Lots

I. TEN OF THE BUSIEST AIRPORTS IN THE UNITED STATES

1. Chicago -- O'Hare
2. New York -- John F. Kennedy
3. Atlanta -- Hartsfield International
4. Los Angeles
5. San Francisco
6. Miami
7. Washington, D.C.
8. New York -- La Guardia
9. Boston
10. Newark, New Jersey

III. OCCUPATIONAL INFORMATION

*A. GENERAL DESCRIPTION

"The rapid development of air transportation in the past two (2) decades has increased the mobility of the population and has created many thousands of job opportunities in the civil aviation industry." Of these thousands of new jobs, the largest percent was employed to fly and service aircraft and passengers on the domestic routes between cities in the United States. Smaller percentages of workers were involved in the operation of airlines flying the international routes. In addition to the commercial and private airlines, the Federal government employed many workers in various capacities in different regulatory and investigative capacities.

B. JOB ENTRY AND PREPARATION

Skills, education, training and personal qualifications vary with the different positions in the aviation industry. For instance, a pilot must be licensed by

*Occupational Outlook Handbook

FAA and must have an instrument rating, must be at least eighteen (18) and have two hundred (200) hours flight experience. This flight experience and training may be gained from military service or from private instruction.

Stewards and stewardesses are required to be high school graduates. Any college or work experience is helpful for applicants interested in such a position. Most airlines conduct their own in service training for stewards and stewardesses.

For mechanics and flight technicians, FAA licensing is also required. To obtain a license, a mechanic must be a graduate of an approved school and/or have a minimum amount of experience. Military service in this field is also accepted as valid experience.

C. GENERAL REQUIREMENTS

For many of the workers in the aviation industry, a basic education, general ability, the ability to deal effectively with the public and the ability to work under sometimes less than ideal conditions are sometimes necessary.

Other characteristics -- the ability to work with data, manual dexterity, an eye for details may be associated with particular occupations.

D. WORK ROLE CHARACTERISTICS AND CONDITIONS

Work roles in this occupational area may be classified under the headings of being involved primarily with people, data or things. For example, flight attendants are chiefly concerned with passengers and their needs; the reservationist is primarily occupied with data -- fact and figures related to schedules; and baggage handlers are concerned with luggage and cargo.

Depending upon the particular work role, some night, weekend and holiday work might be involved since planes operate on twenty-four (24) hour a day, (7) day week scheduling.

Noise and outside work are factors encountered by mechanics, baggage handlers and flight technicians. Safety is a factor to be considered by in-flight personnel. Stress and the pressure of being responsible for many planes are characteristics of the air traffic controller's job.

Many workers in the aviation industry wear uniforms and other special clothing. Some belong to unions which help to protect workers' rights with the airlines. More and more of the jobs formerly held only by men (pilot, mechanic, dispatcher) are becoming open to qualified women. Also, more men are being employed as flight attendants, especially on long domestic

or foreign flights.

E. CAREER LISTINGS

1. Ground Personnel

a. Air Traffic Controller
b. Traffic Dispatcher
c. Radio Operator
d. Meteorologist
e. Dispatch Clerk
f. Teletypist
g. Travel Agent
h. Information Clerk
i. Reservationist
k. Airport Administrator
l. Secretary
m. Food Service Personnel
n. Custodial Personnel
o. Security Workers
p. Baggage Handler
q. Freight Carrier
r. Mechanic
s. Flightline Technician
t. Porters
u. Shuttle Bus Driver
v. Clerical Workers
w. Parking Attendants
z. FAA Inspector

2. IN-FLIGHT WORKERS

a. Flight Attendants
b. Pilot
c. Co-Pilot
d. Flight Engineer

IV. SUGGESTED MOTIVATION ACTIVITIES

A. Encourage students to bring in small models of various kinds of aircraft to display in the classroom. Use the display to stimulate a discussion of the kinds of aircraft and their different uses.

B. Select and show an interesting film or use another audio/visual aid to stimulate student interest. The films "Airplanes Work for Us," (Georgia Catalog) or "Airplanes," (BFA Educational Media) are possible choices.

C. Motivate students through a discussion of their own experiences related to airlines and air transportation. Question students to determine how many have flown on a plane or visited an airport and encourage these students to share their experiences with others.

D. Try to find an interesting book or story related to the unit topic to read to the students.

E. Obtain pictures, posters, travel brochures and other colorful materials from various airlines and other sources to use in designing and constructing an attractive bulletin board.

F. Invite a resource person (Stewardess, Pilot, Flight Technician, FAA Supervisor, Reservationist, Ticket Agent, etc.) to visit the class to share ideas and feelings with the students in a discussion session. Follow up the visit with a time for

"talking it over" in which youngsters are encouraged to verbalize their thoughts and reactions.

G. Correlate an art activity (drawing, sketching, painting) with the unit theme to create student interest.

V. SUGGESTED STUDY ACTIVITIES

A. INITIAL ACTIVITIES

1. Begin motivational activities and use throughout the unit to stimulate and maintain student interest.
2. Introduce the unit topic by defining appropriate vocabulary in student terms. Involve students in helping to define the terms.
3. Use the questions, "What is the airport? Who works there? How does the airport help us? How can we find out more about the airport and airplanes?" to guide a discussion of the unit. Involve students in setting directions, making lists of ideas for activities, possible resource persons and field trip sites and identifying needed materials and equipment. Use the lists in formulating plans.
4. Assess levels of student knowledge and interest by giving an interest inventory, pre-test or expectations sheet. Keep records of the results to compare with those from the end of the unit.
5. Start a class scrapbook of newspaper clippings, stories, snapshots, magazine pictures and other material related to the unit. Keep the materials in chronological order so as to tell the sequential story of the unit development.

B. RESEARCH ACTIVITIES

1. Take the entire class to the media center to identify and explore some of the resources available for research purposes. Gather some materials (film loops, cassette tapes, study prints, books, magazines, etc.) for classroom research center.
2. Encourage students to utilize the available resources in looking for information on the unit topic. Have them work individually or in small groups (2 - 5 students) to do research on themes of interest to them. (Different types of aircraft and their uses, the history of airplanes and helicopters, facts about the first commercial passenger flight, development of different airlines, aviation work roles and their characteristics, etc.)
3. Student work groups could be involved in beginning work on different types of "tangible evidence" for the classrooms. They could include such things as:
   a. Chart of pictures of different aircraft.
   b. Lists of vocabulary words and definitions.
   c. List of work roles identified and some of their characteristics.
   d. List of United States' ten (10) busiest airports.
   e. Diagram of a typical airport with major areas identified.

f. Diagram of an airplane with the major external parts identified.
g. List of airplanes according to engine type.
h. List of airplanes and their uses.
i. Models of different kinds of aircraft.
j. List of major commercial airlines.
k. List of properties of air affecting airplane transportation.

4. Utilize a resource person in helping the students gather information about aviation work roles, characteristics, feelings, duties, etc.
5. Incorporate other audio/visual aids into the unit of study. "An Airplane Trip by Jet," or "Airport in the Jet Age," (Georgia Catalog) might be useful films. The set of slides, "Airport Workers" (Society for Visual Education) might also be helpful.
6. Plan a field trip to site in the community, using the Yellow Pages of Learning Resources as a guide in developing plans and questions for the trip.
7. Begin work on hands-on activities of building a model airport or control tower.

C. CORRELATING ACTIVITIES

1. Language Arts
   a. Reinforce vocabulary learning through the introduction of new words. Use the new words in oral and written activities such as games, crossword puzzles, reports and compositions.
   b. Help the class to develop an interview format for use with resource people and workers encountered on field trips. Have them practice their oral skills by interviewing other students role playing as aviation workers.
   c. Make a reading table of library titles and paperbacks related to the unit. Encourage students to make selections from those books.
   d. Dramatize various incidents from the aviation industry, using role playing techniques to illustrate them. Students might be interested in depicting an airplane flight from beginning to end, including the operations of the control tower and other ground personnel.
   e. Use role playing techniques to help students experience and understand the need for cooperation and the need for each person's contribution to the group effort. Dramatize incidents such as might happen if the air traffic controller, pilot, stewardess, custodian, or security guard failed to do their jobs.
   f. Have students write letters to firms to request information and materials.
2. Mathematics
   a. Stimulate a discussion of the applications of various math skills to work activities in the aviation industry. Talk about the uses of measuring, estimating, computing, enumerating and averaging skills in various activities.

b. Give students practice in reading large, multi-place figures taken from the aviation industry. Gather figures from total passengers carried, total air miles logged and numbers of flights made per year and have students read them aloud.

c. Introduce the concept of rounding and relate it to figures taken from the total numbers of passengers, total numbers of air miles logged, numbers of flights made, etc. Have youngsters practice rounding these figures to the nearest hundred and thousand.

d. Utilize all computation skills (addition, subtraction, multiplication, division) in solving problems. Sample problems might include computing total numbers of passengers; computing the distance a plane will travel in a given time at an average speed; averaging the speed per trip or amount of air time; computing numbers of meals served for passengers; computing revenues from ticket sales, etc.

e. Incorporate linear measuring skills into hands-on activities of laying out a model airport or making items for use in role playing activities.

*f. As a motivational strategy to encourage interest and participation in math, devise a game to illustrate advancement. On one section of the bulletin board, post a map to illustrate a distance to be covered. Designate a starting and ending point and let each student make an "airplane" to represent his progress. Devise certain activities to be completed to cover a certain distance and have each student keep track of moving his "plane" to record his progress in math skills.

g. Introduce set theory terms by defining them in terms of the unit topic.

3. Science

**a. Introduce the properties of air -- mass, weight, pressure and movement -- and illustrate these principles by devising some simple experiments. To illustrate the principle of pressure, drop a sheet of paper to the floor and observe the way it glides to the floor. Then crumble the same sheet of paper into a loose ball and drop it; next, crumple the sheet into a smaller, tighter ball and drop it -- it will fall faster and in a straighter line.

***b. To demonstrate that air has weight, take a glass tumbler of water full to the brim, place a piece of cardboard or stiff paper over the top and hold it there. Quickly turn the glass upside down and remove your hand. The card will stay in position and the water will not fall out of the glass.

c. Discuss with the students the four (4) forces -- weight, drag, thrust, lift -- that interact to make airplanes fly. Get some simple books that have illustrations of these forces in operation. An audio/visual aid would be helpful in this activity.

* Roberta Jackson - Brown Elementary

** Corbett, What Makes A Plane Fly?

*** Aviation Research Associates, How Planes Fly

d. Discuss with the students the importance of weather and atmospheric conditions in aviation. Talk about the role of the weather service at the airport in altering pilots and crews as to weather conditions. Identify some of the tools and instruments used by aviation meteorologists.

4. Social Studies
   a. Introduce the idea that the airplane serves to link different parts of the country and the world. Compare and contrast the airplane as a means of transportation with present and former types of transportation.
   b. Talk with the students about the uses of maps and the skills of map-reading related to the aviation industry. Post a large map of the United States and try to trace some of the major routes used by airlines. Also, use a globe to point out international routes.

5. Art.
   a. Use various materials in designing and constructing a model airport in one area of the classroom.
   b. Have the students do individual sketches of different types of aircraft, including their versions of future ones. Also, students could do drawings of workers.
   c. Involve youngsters in designing advertising posters for the various "airlines" they may set up in the classroom.
   d. Interest the students in drawing a large mural of the diagram of a typical large airport. Or, students could do drawings of activities found at the airport.
   e. Some youngsters might be interested in making puppets from paper bags, pipe cleaners, construction paper, yarn, etc. These puppets could represent various aviation workers.

D. SUGGESTED HANDS-ON ACTIVITIES

1. Involve students in designing and constructing a scale model airport, with towers, hangars, terminals, runways, ramps, etc. Use materials such as cardboard boxes, construction paper, aluminum foil and plastic and layout the airport on a large table top or on a sheet of plywood. While the students are constructing the airport, have them discuss the different areas of the airport and the people who work there.
2. Have students make items to use in role playing activities. A control tower could be built from a refrigerator box; a cockpit from cardboard and poster board; an information viewer from a grocery carton; a pilot's uniform from an old shirt, etc. Encourage students to work individually or in small groups to design and make these items.
3. Some students might wish to construct models of different types of aircraft from kits, from plastic or balsa wood.

E. SUGGESTED CULMINATING ACTIVITIES

1. Plan and take a field trip to Hartsfield International Airport in Atlanta, if possible, using the Yellow Pages of Learning Resources in helping to make

preparations for the trip. Follow up the trip with a time for "talking over" what the students felt and observed.

2. Use a game or crossword puzzle to assess students' understanding of vocabulary terms.
3. Display finished art projects in the classroom.
4. Provide students materials to design and make a final bulletin board on the airport or other interesting aspects of the unit.
5. Involve another resource person in the activities of the students.
6. Complete role playing activities of dramatizing a plane flight from beginning to end. Involve all students in the activity, encouraging them to interchange roles to get a broader range of experiences.
7. Show any other particularly interesting films or filmstrips related to the airport.
8. Give the final questionnaire, post-test or expectations sheet to assess student's knowledge and interest levels. Compare results with initial evaluation.

F. FOLLOW-UP ACTIVITIES

1. Plan a summarizing oral evaluation session and involve students in verbalizing their reactions to unit activities. Encourage them to talk about their roles, ways projects and activities could have been improved, "high" and "low" points of the unit, etc.
2. Continue to use new vocabulary terms and definitions in oral and written work to help reinforce learning.

VI. MATERIAL AND EQUIPMENT NEEDS

A. Shoe Boxes
B. Cardboard Sheets
C. Egg Cartons
D. Crepe Paper
E. Cardboard Tubes
F. Gravel
G. Construction Paper
H. Modeling Clay
I. Paper Bags
J. Pipe Cleaners
K. Yarn
L. Buttons
M. Poster Paper
N. Magic Markers
O. Scissors
P. Rulers
Q. Refrigerator Box
R. Exacto Knives
S. Butcher Paper
T. Tempera Paint
U. Paint Brushes
V. Crayons
W. Art Paper
X. Globe
Y. United States Map
Z. Glass
AA. Aluminum Foil
BB. Brochures and Pamphlets
CC. Library Books
DD. Dictionary
EE. Paper and Envelopes
FF. Audio/Visual Materials
GG. Audio/Visual Equipment
HH. Bulletin Board Supplies
II. Magazines
JJ. Newspapers
KK. Camera and Film
LL. Masking Tape
MM. Model Airplanes
NN. Glue

VII. EVALUATION

A. SELF-EVALUATION

1. Did I attain all the goals I had set for myself as a teacher?
2. Did I incorporate all six (6) elements of the Career Development approach into the unit study?
3. Did I involve all youngsters to the maximum extent possible in the planning and coordinating of unit activities?
4. Did I plan effectively, utilizing methods and materials wisely?
5. Did I generate the maximum level of interest and participation through effective and reinforcing motivational activities?
6. Did I encourage students to verbalize their feelings and reactions following role playing activities?
7. Did I maintain a classroom atmosphere conducive to learning?
8. Did I use the most effective means of correlating the subject matter?
9. Did I facilitate expressions of both individual initiative and group interest?
10. Did I plan activities so as to individualize instruction as much as possible?

B. OBSERVATIONS OF THE CHILD

1. Observe the flexibility of individual role interaction within the group.
2. Observe for evidence of individual research and task completion.
3. Observe for evidences of strengthening of individual self-images.
4. Observe the youngster's ability to apply his abstract knowledges to concrete learning situations.
5. Observe the student's use of communication skills both as an individual and as a member of the group.
6. Look for evidence of social interaction skills -- does the child accept responsibility willingly, complete tasks, share materials, take turns and communicate well with his peers?
7. Observe for any evidence of change in attitude toward school-related activities and the work community.

C. WRITTEN EVALUATION (PRE AND POST TEST IF DESIRED)

1. Match the word in the left column with its correct meaning in the right. Write the letter of the correct meaning in the blank beside the word.

_____ Transportation	A. Act of flying
_____ Flight	B. Area of land where aircraft can take off and land.
_____ Airport	C. Winged vehicle able to fly.
_____ Airplane	D. Means of getting around.

2. Name as many work roles as you can that are related to airlines and the airport.
3. How do these workers help us?
4. What are some of the different ways that airplanes can be used?

D. ORAL EVALUATION QUESTIONS

1. How many commercial airports are there in the United States?
2. List five (5) ways that an airport adds to the progress of a community.
3. What are jetways?
4. How many jobs does an airport provide for people?
5. How does a passenger know when to board his plane?
6. How many passengers can an airplane carry?
7. Why are Air Traffic Control Towers the highest part of the airport?
8. Who prepares meals for an airline?
9. How is airplane fuel measured?
10. What is a "radio slide"?
11. Name five (5) occupations at an airport.
12. Name four (4) workers on an airplane.
13. Name three (3) kinds of airplanes.

VII. AUDIO/VISUAL AND RESOURCE MATERIALS

A. AUDIO/VISUAL

1. Films
   a. "Airplanes Work for Us"
   b. "Airport in the Jet Age"
   c. "An Airplane Trip by Jet"
   d. "Billy's Helicopter Ride"
   e. "Jetliner Captain"

GEORGIA CATALOG OF CLASSROOM TEACHING FILMS, 1972-75.

   f. "Airplanes"
   g. "Airport"
   h. "Helicopter Helpers"

BFA EDUCATIONAL MEDIA SANTA MONICA, CALIFORNIA

   i. "Plane Talk"

SOUTHERN BELL EDUCATION FILMS ATLANTA, GEORGIA

2. Filmstrips
   a. "A Visit to the Airport"

EDUCATIONAL ACTIVITIES, INC. FREEPORT, NEW YORK

   b. "Careers in Aerospace" (Series)

EYE GATE HOUSE JAMAICA, NEW YORK

3. Slides
   a. "Airport Workers"

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B. RESOURCE MATERIALS

1. Teacher Bibliography
   a. Corbett, Scott, What Makes a Plane Fly?, Boston: Little Brown and Company, 1967.
   b. Floherty, John, Aviation From the Ground Up, Philadelphia: Lippincott, 1950.

c. McFarland, Kenton, Airplanes -- How They Work, New York: Putnam's Sons, 1966.
d. Stambler, Irvin, Supersonic Transport, New York: Putnam's Sons, 1965.
e. Taylor, John, Aircraft, New York: Crossett and Dunlap, 1972.

2. Additional Resources
   a. Air Travel Materials, Cessna Aircraft -- Ed. Division, P.O. Box 152, Wichita, Kansas 67201.
   b. Air World Educational Series, Trans-World Airlines, Inc., 605 3rd Avenue, New York, New York 10016.
   c. "Aviation -- Where Career Opportunities are Bright", National Aerospace Education Council, 806 15th Street, N.W., Washington, D.C. 20005.
   d. Career World, (Vol. I, Number 4) 1972, Curriculum Innovations, Highwood, Illinois.
   e. Costello and Wolfson, Concise Handbook of Occupations, Chicago: Ferguson, 1971.
   f. Dictionary of Occupational Titles, U.S. Government Printing Office, Washington, D.C. 20402.
   g. Federal Aviation Agency, Department of Transportation, P.O. Box 25082, Oklahoma City, Oklahoma 73125.
   h. Occupational Outlook Handbook, U.S. Government Printing Office, Washington, D.C. 20402.
   i. SRA Occupational Briefs, 259 E. Erie Street, Chicago, Illinois 60611.
   j. Yellow Pages of Learning Resources, M.I.T. Press, Cambridge, Massachusetts.

3. Airline Addresses
   a. American Airlines, Inc., 633 Third Avenue, New York, New York, 10017.
   b. Beech Aircraft Corp., Public Relations Department, 9709 E. Central, Wichita, Kansas 67201.
   c. Boeing Company, Attn: Public Relations, P.O. Box 3707, Seattle, Washington, 98124.
   d. Cessna Aircraft Company, P.O. Box 1521, Wichita, Kansas 67201.
   e. Delta Airlines, Inc., Public Relations Department, Atlanta Airport, Atlanta, Georgia, 30320.
   f. Lockheed Aircraft Corp., 2555 N. Hollywood Way, Burbank, California 91503.
   g. McDonnell Douglas Corp., Director of Public Relations, 3000 Ocean Park Boulevard, Santa Monica, California 90406.
   h. Piper Aircraft Corp., Lock Haven, Pennsylvania 17745.
   i. Trans World Airlines, Inc., Director, Public Relations, 605 3rd Avenue, New York, New York 10016.
   j. United Airlines, Inc., P.O. Box 66100, O'Hare International Airport, Chicago, Illinois 60666.

IX. STUDENT'S BIBLIOGRAPHY

A. American Heritage Magazine, The History of Flight, Golden Press, 1966.
B. Bendick, Joanne, First Book of Airplanes, Franklin Watts, 1958.
C. Donovan, Jere, Wings in Your Future, Harcourt, Brace, & Co., 1953.
D. Feravolo, Roco, V., Junior Science Book of Flying, Sarrard Press, 1960.
E. Greene, Carla, I Want to be an Airplane Hostess, Children's Press, 1960.
F. Gottlieb, William F., Aircraft and How They Work, Garden City Books, 1960.
G. Hyde, Margaret O., Flight Today and Tomorrow, McGraw, 1962.
H. Loomis, Robert D., All About Aviation, Random House, 1964.
I. Ress, Etta Schneider, Transportation in Today's World, Creative Educational Society, 1965.
J. Stanek, Muriel, I Know an Airplane Pilot, G. P. Putnam's Sons, 1969.